_

What is claimed is:

1. A method for upgrading at least one of a plurality of computer programs stored on an application server in a distributed computing environment, said method comprising:

5

preventing said application server from servicing requests for an upgrade-ready computer program while permitting said application server to service client requests for other computer programs.

- 2. The method of claim/1, further comprising the steps of:
- (a) preventing said application server from receiving any new requests for said computer program;
- (b) waiting until all of said application server's current requests for said computer program have ended;
 - (c) acknowledging completion of upgrading of said computer program; and
- (d) permitting said application server to receive any new requests for said computer program.
 - 3. The method of claim 2, wherein step (a) comprises the step of:
- (e) sending a signal to a router to instruct said router to stop routing requests for said computer program to said application server.
- 20

15

4. The method of claim 2, wherein said signal in step (e) comprises an

15

5

Patent RSW9-2000-0119-US1 identification code identifying said computer program.

- 5. The method of claim 4, wherein said identification code comprises a universal resource locator.
 - 6. The method of claim 4, wherein said identification code comprises a filename.
 - 7. The method of claim 2, wherein step (d) comprises the step of:
- (f) sending a signal to a router to instruct said router to begin routing requests for said computer program to said application server.
- 8. The method of claim 7, wherein said signal in step (f) includes an identification code identifying said computer program.
 - 9. The method of claim 2, wherein step (e) comprises the step of:
- (g) maintaining a server list, said server list identifying a computer program and an application server for satisfying a request for said computer program; and
 - (h) identifying said computer program and said application server to said router.
- 10. The method of claim 9, wherein said signal in step (f) comprises an identification code read from said server list.
 - 11. The method of claim 2, further comprising the step of:

15

5

- (i) maintaining a session list of active client requests serviced by said application server, said session list identifying a client request and a computer program requested by said client.
 - 12. The method of claim 1/1, wherein step (b) comprises the step of:
 - (j) referencing said session list.
 - 13. The method of claim $\frac{1}{2}$, further comprising the step of:
- (k) repeating steps (a) through (d) for a next application server storing said computer program.
 - 14. The method of claim 2, wherein step (c) comprises the step of:
- (l) receiving a signal from an application server upon completion of upgrading of said computer program at said application server.
- 15. An application server for facilitating upgrading in a distributed computing environment, the application server comprising:
 - a central processing unit;
 - a memory operatively connected to said central processing unit;
- a telecommunications device operatively connected to said central processing unit and capable of communicating via a communications network;
- a first program stored in said memory and executable by said central processing unit for storing in said memory a list of active client requests supported by said application

server;

5

20

a second program stored in said memory and executable by said central processing unit for storing in said memory an identification of a computer program associated with each active client request;

a third program storled in said memory and executable by said central processing unit for identifying a computer program upon receipt of a signal via said telecommunications device; and

a fourth program stored in said memory and executable by said central processing unit for sending a signal via said telecommunications device when said application server is no longer supporting an active client request for said computer program.

16. A system management server for facilitating upgrading in a distributed computing environment, the application server comprising:

a central processing unit;

a memory operatively connected to said central processing unit;

a telecommunications device operatively connected to said central processing unit and capable of communicating via a communications network;

a first program stored in said memory and executable by said central processing unit for storing in said memory a list of application servers for servicing requests for a computer program;

a second program stored in said memory and executable by said central processing unit for storing in said memory an identification of a computer program associated with each active client request;

20

5

a third program stored in said memory and executable by said central processing unit for sending a signal via said telecommunications device to instruct a router to stop routing client requests for a particular computer program to a particular application server; and

a fourth program stored in said memory and executable by said central processing unit for sending a signal via said elecommunications device to instruct a router to begin routing client requests for said particular computer program to said particular application server responsive to an indication that an upgrade process of said particular computer program on said particular application server is complete.

- 17. A method for upgrading one of a plurality of computer programs stored on an application server in a distributed computing environment, said method comprising the steps of:
- (a) instructing a router to stop routing requests for said computer program to said application server;
- (b) waiting until said application server is no longer supporting a current client request for said computer program;
- (c) after completion of upgrading of said computer program, instructing said router to begin routing requests for said computer program to said application server.
- 18. The method of claim 17, wherein step (a) comprises sending a signal to said router identifying said computer program and said application server, said signal comprising information retrieved from a server list and identifying said computer program.

I The same that the same of th

5

- 19. The method of claim 17, wherein step (b) comprises receiving a signal from said application server, said application server maintaining a list of active client requests, said list identifying said computer program, said application server sending said signal when said list reflects no active client requests for said computer program.
- 20. The method of claim 17, wherein step (c) comprises sending a signal to said router identifying said computer program and said application server, said signal comprising information retrieved from a server list and identifying said computer program.